

Abstract

The invention provides a method of producing a protein bioarray that includes providing a substrate comprising a solid support and a surface modification layer bound to the solid support. The surface modification layer includes a first moiety having the structure —Si—R^1 and a second moiety having the structure —Si—L—R^2 , wherein R^1 is a chemically inert moiety selected from the group consisting of C_3 to C_{30} alkyl and benzyl optionally substituted with 1 to 5 halogen atoms, L is a linking group, and R^2 is a chemically inert hydrophilic moiety. The method of producing the protein bioarray further includes providing at least two solutions, wherein each solution contains a probe protein. In the method, each of the solutions is then deposited at its own discrete site on the substrate. The probe proteins deposited on the substrate become non-covalently bound to the substrate.